

CLAIMS

What is claimed is:

1. A method, comprising:
accessing branch history information associated with a current operating context from a plurality of designated branch history storage locations, wherein each one of the plurality of designated branch history storage locations is associated with a corresponding plurality of operating contexts including the current operating context.
2. The method of claim 1, wherein accessing the branch history information further includes:
retrieving branch history information associated with the current operating context.
3. The method of claim 1, wherein accessing the branch history information further includes:
storing branch history information associated with the current operating context.
4. The method of claim 1, further comprising:
storing branch history information associated with a first operating context included in the plurality of operating contexts in a first location included in the plurality of designated branch history storage locations.

5. The method of claim 4, further comprising:
storing branch history information associated with a second operating context included in the plurality of operating contexts in a second location included in the plurality of designated branch history storage locations.
6. The method of claim 1, further comprising:
determining a course of action based on a condition of branch history information associated with a selected context associated with a selected one of the plurality of designated branch history storage locations.
7. The method of claim 1, further comprising:
determining the current operating context.
8. The method of claim 1, wherein the plurality of operating contexts includes at least one of an operating system context and a user context.
9. The method of claim 8, wherein the operating system context includes a kernel context.
10. An article comprising a machine-accessible medium having associated data, wherein the data, when accessed, results in a machine performing:
accessing branch history information associated with a current operating context from a plurality of designated branch history storage locations, wherein each one of the plurality of designated branch history storage locations is associated with a corresponding plurality of operating contexts including the current operating context.

11. The article of claim 10, wherein the machine-accessible medium further includes data, which when accessed by the machine, results in the machine performing:

determining the current operating context based on a type of instruction previously executed.

12. The article of claim 10, wherein the machine-accessible medium further includes data, which when accessed by the machine, results in the machine performing:

storing branch history information associated with a first operating context included in the plurality of operating contexts in a first location included in the plurality of designated branch history storage locations; and

storing branch history information associated with a second operating context included in the plurality of operating contexts in a second location included in the plurality of designated branch history storage locations, wherein the first and second locations are included in a pair of registers.

13. The article of claim 10, wherein each one of the plurality of designated branch history storage locations is included in a substantially contiguous series of memory locations forming an addressable memory block.

14. An apparatus, comprising:

at least a first storage location to store branch history information associated with a first operating context selected from a preselected plurality of operating contexts; and

at least a second storage location to store branch history information associated with a second operating context selected from a preselected plurality of operating contexts.

15. The apparatus of claim 14, wherein the preselected plurality of operating contexts includes at least one of a user context and an operating system context.
16. The apparatus of claim 14, wherein the first storage location is included in a first designated portion of a memory.
17. The apparatus of claim 16, wherein the second storage location is included in a second designated portion of the memory that does not overlap the first designated portion of the memory.
18. The apparatus of claim 14, wherein the first storage location and the second storage location each comprise one or more registers.
19. The apparatus of claim 18, wherein the first storage location and the second storage location each comprise a plurality of bits within a single register.
20. The apparatus of claim 14, further comprising:
a branch history table having a dynamically switched input coupled to at least one bit included in the first storage location and at least one bit included in the second storage location.
21. The apparatus of claim 20, wherein the dynamically switched input can be switched according to an indication of a current operating context included in the preselected plurality of operating contexts provided by a processor status register.
22. The apparatus of claim 20, wherein the branch history table is capable of receiving an indication of a selected branch address modified by the indication of the current operating context.

23. The apparatus of claim 14, further comprising:
a split branch history table having a first portion to receive at least one bit included in the first storage location and a second portion to receive at least one bit included in the second storage location.
24. The apparatus of claim 23, further comprising:
a processor status register to provide an indication of a current operating context including the preselected plurality of operating contexts to a prediction resource coupled to the split branch history table.
25. A system, comprising:
a processor to execute a plurality of instructions within a first operating context selected from a plurality of operating contexts and within a second operating context selected from the plurality of operating contexts;
at least a first storage location to store branch history information associated with the first operating context; and
at least a second storage location to store branch history information associated with the second operating context.
26. The system of claim 25, further comprising:
a wireless transceiver coupled to the processor.
27. The system of claim 25, further comprising:
a memory coupled to the processor, the memory including the first storage location and the second storage location.
28. The system of claim 27, wherein the memory includes at least one shift register.

29. The system of claim 25, further comprising:
a processor status register included in the processor to provide an indication of a current operating context included in the plurality of operating contexts.
30. The system of claim 25, further comprising:
a split branch history table including the first storage location and the second storage location.
31. A method, comprising:
accessing a first branch history associated with a first operating context; and
accessing a second branch history associated with a second operating context, wherein the first branch history is separated from the second branch history.
32. The method of claim 31, further comprising:
separating the first branch history from the second branch history.
33. The method of claim 31, wherein the first operating context includes an execution of a plurality of user instructions, and wherein the second operating context includes an execution of a plurality of operating system instructions.
34. The method of claim 31, further comprising:
predicting a branch within the first operating context based upon information stored in the first branch history; and
predicting a branch within the second operating context based upon information stored in the second branch history.
35. A branch prediction apparatus, comprising:

at least a first storage location to store branch history information associated with an execution of a plurality of user instructions; and

at least a second storage location to store branch history information associated with an execution of a plurality of operating system instructions, wherein the first storage location and the second storage location are separated.

36. The apparatus of claim 35, further comprising:

a first storage location to store branch history information associated with a first operating context selected from a preselected plurality of operating contexts; and

a second storage location to store branch history information associated with a second operating context selected from the preselected plurality of operating contexts.

37. The apparatus of claim 35, further comprising:

a branch history table having a dynamically switched input coupled to the first storage location and the second storage location.

38. A method, comprising:

predicting a branch within a first operating context using a first strategy; and

predicting a branch within a second operating context using a second strategy.

39. The method of claim 38, further comprising:

separating a first branch history associated with the first operating context from a second branch history associated with the second operating context.

40. The method of claim 39, wherein the first operating context comprises a user context, and wherein the second operating context comprises an operating system context.

41. The method of claim 38, wherein the first strategy includes accessing a branch history associated with a user context, and wherein the second strategy includes accessing a branch history associated with an operating system context.